

Appl. No. 10/022, 708
Reply to Office Action of February 7, 2006

REMARKS

Claims 13 - 16 have been added in order to alternately claim the invention, as disclosed in the specification.

Applicants respectfully request reconsideration of Examiner's rejection of claims 1 - 11 under 35 U.S.C. §102(b). Examiner has rejected these claims in view of the cited prior art reference of *Kinugasa* et al. (U.S. Patent No. 5,043,817). The *Kinugasa* reference is directed to the implementation of two separate driving circuits for reading out signals from a solid-state image sensor having a plurality of photodiodes arranged in a two dimensional form. In a first read-out method for normal readout operation, the signals of the photodiodes of two rows adjacent to each other in a vertical direction are mixed with each other and then read out. (See the Abstract of the Invention). In a second read-out method for zooming-in operation the signals of the photodiodes of the two rows adjacent to each other in the vertical direction are separately read out and stored in a memory, and a memory driving circuit then reads out from the memory the signal stored in the memory in a time sequence different from the time sequence at which the signals had been stored in the memory. (See Column 3, lines 23 - 34). Nothing in *Kinugasa*, however, teaches or suggests Applicant's currently claimed invention.

More specifically, *Kinugasa* fails to read on the plain requirements of the claim. Applicant's invention is directed to a method and apparatus for providing a plurality of groups of image sensors on a single chip plane, or otherwise located near each other, and wherein the driving means reduces the effect on the output signal of one group of sensors caused by the noise arising from the read-out operations of another group of sensors.

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More specifically, Applicants have found that by gating the transfer driving signals of the second group of sensors, the output of a first group of sensors having a different read-out period can be improved. *Kinugasa* fails to teach or suggest such a device.

Regarding the claims, Applicants note that claim 1 requires:

A solid-state image sensing device comprising:

a plurality of groups of sensors, each of the group of sensors comprises a line of pixels and a charge-transfer part for transferring signal charge to be read-out from each pixel of the line of pixels; and

driving means, by which in case of read-out of the signal charge is performed at a different timing between each of said plurality of groups of sensors, wherein during a read-out period of a first group of sensors, stopping transfer driving of the signal charge of a second group of sensors is performed by said driving means.

Applicants note that, in the February 7, 2006 Office Action, the Examiner took the position that the photodiodes 16 of Figure 6 comprise a pixel line in accordance with the claim. (See page 2 of the Action). The Examiner then took the position that the vertical CCD 17 and the horizontal CCD 18 also comprise a "group of sensors" as required by the claim. (See pages 2 and 3 of the Office Action).

Applicants submit, however, that the Examiner's position cannot be maintained. As shown in the above emphasized portion of claim 1, the plain language of the claim

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requires that each of the sensors (of which the “first group of sensors” and “second group of sensors” are comprised of) be comprised of a line of pixels and a charge transfer portion. The Examiner has admitted that only the photodiodes 16 of Figure 6 meet the limitation of “a pixel line.” (See page 2 of the Action). Accordingly, Applicants submit that only the photodiodes 16 in a vertical arrangement, and the corresponding vertical charge transfer portion 17 meet the limitation of “a sensor.” In accordance with this, Applicants submit that it is error for the Examiner to characterize the vertical transfer section 17 and the horizontal transfer section 18 separately as “sensors” in accordance with the claim language.

In accordance with the proper construction of Applicants claim language, Applicants submit that the *Kinugasa* fails to meet the plain limitations of the claim, which require that a first group of sensors be read out at a different timing as a second group of sensors, and wherein during a read-out period of a first group of sensors, transfer driving of the second group of sensors is stopped. The only difference in timing disclosed in the *Kinugasa* reference is in regard to reading out the image data from the memory 13 of Figure 5 at a timing different than that at which the image data was written into the memory 13. (See Column 3, lines 7 – 34). Rather, as shown in Figure 1, Applicants invention is directed to the stopping of driving of a second group of sensors (color sensors 21/22R, 21/22G, and 21/22B) during a read-out period of a first group of sensors (monochrome sensors 11/12o/12e) when read-out of the signal charges in each group of sensors is performed at different timings (See Figure 2).

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For at least the reasons cited above, Applicants submit that the Examiner's rejection under 35 U.S.C. §102(b) must be withdrawn, and claims 1 – 11 placed in condition for allowance.

Applicants respectfully request reconsideration of Examiner's rejection of claim 12 under 35 U.S.C. §103(a). Examiner has rejected these claims in view of the cited prior art references of *Kinugasa et al.* (U.S. Patent No. 5,043,817) in view of *Beckett* (U.S. Patent No. 5,852,502). For at least the reasons cited above in regard to the *Kinugasa* reference, Applicants submit that the 35 U.S.C. §103(a) rejection must be withdrawn, and claim 12 be placed in condition for allowance. Furthermore, *Beckett* fails to teach or suggest anything regarding the stopping of the driving of the color sensors, or the use of different read-out timings applied to each group of sensors. Rather, *Beckett* actually teaches away from it (See Column 2, lines 35 – 41, which teaches the simultaneous driving of both sensors). Applicants note that the Court of Appeals for the Federal Circuit has held that "It is improper to combine references where the references teach away from their combination." *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

For these reasons also, Applicants submit that the 35 U.S.C. §103(a) rejection must be withdrawn, and claim 12 be placed in condition for allowance

Examiner's remaining references cited but not relied upon, considered either alone or in combination, also fail to teach applicant's currently claimed invention. In light of the foregoing, Applicants respectfully submit that all claims now stand in condition for allowance.

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Respectfully submitted,

Date:

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